

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
The FCC Seeks Comments on)	IB Docket No. 04-286
Recommendations Approved by the)	
Advisory Committee for the 2007)	
World Radio Communications)	
Conference)	

To the Commission:

**Comments of Nickolaus E. Leggett, N3NL
Amateur Radio Extra Class Operator**

The following are formal comments from Nickolaus E. Leggett. I am a certified electronics technician (ISCET and NARTE) and an Extra Class amateur radio operator (call sign N3NL). I have a Master of Arts degree in Political Science from the Johns Hopkins University. I am also an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935).

Amateur Radio Allocation on 135.7 to 137.8 kHz

WRC-2007 Agenda Item 1.15 proposes that the frequency band 135.7 to 137.8 kHz be assigned to the amateur radio service on a secondary basis.

I support this allocation because it will greatly encourage amateur radio experimentation with discrete radio components and with circuits composed of discrete radio components. My own direct interest in this allocation is for the design and development of new radio components. Some

of these components can use conducting liquids (electrolytes) such as salt water mixtures.

Discrete Component Experiments

Over time, amateur radio operators have experimented with antennas consisting of columns of salt water mixtures and with capacitors using salt water mixtures. The salt water capacitor was invented by William Simes (Reference 1). He used saturated salt water, as well as other electrolytes, in variable capacitors based on a rotating container for the electrolyte. He used this capacitor in a crystal set radio receiver for the AM broadcast band. Large-scale versions of this variable capacitor can be used at low frequencies.

Another area of interest is building one's own radio vacuum tubes (thermionic valves) such as those built by H. P. Friedrichs (Reference 2). Mr. Friedrichs has built triode vacuum tubes with a vacuum sustained by continuous pumping with a vacuum pump system. This technology is of special interest because it enables development of grid structures for particular purposes and the use of operator-adjustable vacuum tube grids. Inventions of this sort could eventually be used for natural-vacuum electron valves operated in the vacuum of space.

Another system of interest would be a shielded spark used as a source of radio frequency energy that would be significantly filtered before transmission. This somewhat speculative technology would be of interest

because it could be the basis for a radio transmitter that is highly resistant to surge currents and electromagnetic pulse (EMP) damage.

Benefits of Low Frequency Allocations

A low frequency allocation assists this type of amateur radio experimentation because many of these prototypes operate better at lower frequencies. This allows the components to be first developed at low frequencies and then later further developed for higher frequencies. In addition, having the privilege of transmitting would allow the development of these components for transmitting applications as well as for receiving.

Respectfully submitted,

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October 17, 2006

Reference 1: William Simes, "A Krystal Kludge", Crystal Set Projects, The Xtal Set Society, St. Louis, 1997 ISBN 1-887736-06-9

Reference 2: H. P. Friedrichs, Instruments of Amplification, H. Peter Friedrichs (publisher), 2003 ISBN 0-9671905-1-7

